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Womble Carlyle Sandridge & Rice, PLLC
Oracle International Corporation
Attn: Patent Docketing 32nd Floor
Post Office Box 7037
Atlanta, GA 30357-0037

EXAMINER
CHEN, QING

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *15 January 2008*.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-18* is/are pending in the application.
  4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) *1-18* is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on *11 October 2001* is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  a) ☐ All   b) ☐ Some * c) ☐ None of:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. _____.
    3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1.   This Office action is in response to the amendment filed on January 15, 2008.

2.   **Claims 1-18** are pending.

Response to Amendment

Specification

3.   The title of the invention is not descriptive. A new title is required that is clearly

indicative of the invention to which the claims are directed.

4.   The abstract of the disclosure is objected to because the trademark EJB should be

accompanied with an appropriate designation symbol, *e.g.*, ™ or ®. Correction is required. See

MPEP § 608.01(b).

5.   The use of trademarks, such as EJB and JAVA, has been noted in this application.

Trademarks should be capitalized wherever they appear (capitalize each letter OR accompany

each trademark with an appropriate designation symbol, *e.g.*, ™ or ®) and be accompanied by

the generic terminology (use trademarks as adjectives modifying a descriptive noun, *e.g.*, "the

JAVA programming language").

        Although the use of trademarks is permissible in patent applications, the proprietary

nature of the marks should be respected and every effort made to prevent their use in any

manner, which might adversely affect their validity as trademarks.

Claim Objections

6.   **Claims 6, 8, and 18** are objected to because of the following informalities:

*   **Claim 6** contains a typographical error: "[E]ach input identifying a resource that

relate to said business domain" should read -- each input identifying a resource that

relates to said business domain --.

*   **Claim 8** contains a typographical error: "[A]n unified modeling language" should

read -- a unified modeling language --.

*   **Claim 18** contains a typographical error: Claim 18 should depend on Claim 17, not

Claim 16.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

7.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter which the applicant regards as his invention.

8.   **Claims 1-18** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for

failing to particularly point out and distinctly claim the subject matter which applicant regards as

the invention.

        Claim 1 recites the limitation "the business functionality." There is insufficient

antecedent basis for this limitation in the claim. In the interest of compact prosecution, the

Examiner subsequently interprets this limitation as reading "a business functionality" for the

purpose of further examination.

Claims 2-18 depend on Claim 1 and, therefore, suffer the same deficiency as Claim 1.

Claims 1, 3, 5, 8-12, and 14-17 contain the trademark or trade name EJB. When a

trademark or trade name is used in a claim as a limitation to identify or describe a particular

material or product, the claim does not comply with the requirements of the 35 U.S.C. 112,

second paragraph. *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is

uncertain since the trademark or trade name cannot be used properly to identify any particular

material or product. A trademark or trade name is used to identify a source of goods, and not the

goods themselves. Thus, the use of a trademark or trade name in a claim to identify or describe a

material or product (in the present case, a specific product of Sun Microsystems, Inc.) would not

only render a claim indefinite, but would also constitute an improper use of the trademark or

trade name.

Claim 18 depends on Claim 17 and, therefore, suffers the same deficiency as Claim 17.

Claim 3 recites the limitation "said EJB components." There is insufficient antecedent

basis for this limitation in the claim. In the interest of compact prosecution, the Examiner

subsequently interprets this limitation as reading "said EJB component" for the purpose of

further examination. Consequently, the claim should read "wherein said EJB component is

extensible and configurable."

        Claim 12 recites the limitation "said sub-domains." There is insufficient antecedent basis

for this limitation in the claim. In the interest of compact prosecution, the Examiner subsequently

interprets this limitation as reading "said one or more sub-domains" for the purpose of further

examination.

        Claim 18 recites the limitation "said Smart component." There is insufficient antecedent

basis for this limitation in the claim. In the interest of compact prosecution, the Examiner

subsequently interprets this claim as depending on Claim 17 for the purpose of further

examination. Thus, such dependency would provide sufficient antecedent basis for this limitation

in the claim.

Claim Rejections - 35 USC § 101

9.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or
> any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and
> requirements of this title.

10.   **Claims 1-18** are rejected under 35 U.S.C. 101 because the claimed invention is directed

to non-statutory subject matter.

Claims 1-18 are directed to a method. However, the recited steps of the method are held

to be non-statutory subject matter because the recited steps of the method are (1) not tied to

another statutory class (such as a particular apparatus) or (2) not transforming the underlying

subject matter (such as an article or materials) to a different state or thing. Applicant is advised to

amend the claims to recite "[a] computer-implemented method" in order to overcome the § 101

rejections.

Claim Rejections - 35 USC § 102

11.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed
> in the United States before the invention by the applicant for patent or (2) a patent granted on an application for
> patent by another filed in the United States before the invention by the applicant for patent, except that an
> international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this
> subsection of an application filed in the United States only if the international application designated the United
> States and was published under Article 21(2) of such treaty in the English language.

12.   **Claims 1-5** are rejected under 35 U.S.C. 102(e) as being anticipated by **US 6,237,135**

(hereinafter "Timbol").

        As per **Claim 1**, <u>Timbol</u> discloses:

        -       (a) analyzing a business domain to determine functional requirements of said business

domain *(see Column 10: 50-52, "The user employs the Java Bean Wizard 300 to specify the*

name of the bean, the package it will be in, and the class it extends from.");

- (b) transforming said functional requirements into an EJB component model *(see Column 9: 38-41, "It provides a defined model of how a reusable component in Java should be packaged, so that the component could be freely used in any Java development environment." and 51-53, "In order to support this level of functionality, the Sun Java Bean model specifies a set of design patterns of how component should be coded (i.e., structured in source code).")*; and

- (c) building an EJB component in accordance with said EJB component model that encompass a business functionality of said business domain *(see Column 19: 15 and 16, "The system provides an Enterprise Java Bean Wizard for creating Enterprise Java Beans.")*.

As per **Claim 2**, the rejection of **Claim 1** is incorporated; and <u>Timbol</u> further discloses:

- modifying said functional requirements by a user *(see Column 11: 43-45, "As described below, however, the system provides visual designers and additional methodology for allowing the user to further customize the bean.")*; and

- repeating the steps (b) and (c) to provide a parallel development process *(see Column 10: 17-21, "Further, once the user has created a "Java Bean" (i.e., component), he or she can continue to use the BeansExpress visual designers and methodology as true "two-way" tools to make further changes to the generated component, as needed.")*.

As per **Claim 3**, the rejection of **Claim 1** is incorporated; and <u>Timbol</u> further discloses:

- wherein said EJB component is extensible and configurable *(see Column 10: 34-36, "Like other types of components, Java Beans are reusable pieces of code that can be updated with minimal impact on the testing of the program they become a part of.")*.

As per **Claim 4**, the rejection of **Claim 1** is incorporated; and <u>Timbol</u> further discloses:

- wherein said functional requirements include data and process model of said business domain *(see Column 8: 61-67, "The component palette 264 displays components available in the JBuilder component library. Components are the elements which a user employs to build his or her applications. They include all of the visible parts of an application, such as dialog boxes and buttons, as well as those which are not visible while the application is running (e.g., system timers).").*

As per **Claim 5**, the rejection of **Claim 4** is incorporated; and <u>Timbol</u> further discloses:

- wherein said EJB component model encapsulates the data and process model of the said business domain *(see Column 10: 27-33, "A Java Bean can be a discrete component used in building a user interface, or a non-UI component such as a data module or computation engine. At its simplest, a Java Bean is a public Java class that has a constructor with no parameters. Java Beans usually have properties, methods, and events that follow certain naming conventions (also known as "design patterns").").*

Claim Rejections - 35 USC § 103

13.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

14.   **Claims 6-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Timbol** in

view of **US 6,167,564 (hereinafter "Fontana")**.

        As per **Claim 6**, the rejection of **Claim 1** is incorporated; however, <u>Timbol</u> does not

disclose:

        -    wherein the step of analyzing includes the step of generating a list of inputs, each

input identifying a resource that relates to said business domain.

        <u>Fontana</u> discloses:

        -    wherein the step of analyzing includes the step of generating a list of inputs, each

input identifying a resource that relates to said business domain *(see Column 7: 38-42, "A typical*

business domain generally comprises a wide range of functionalities, which in aggregation form

the overall functions of a business domain. A clearly defined coherent description of such

functionalities are called business models.").

        Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to incorporate the teaching of <u>Fontana</u> into the teaching of <u>Timbol</u> to include

wherein the step of analyzing includes the step of generating a list of inputs, each input

identifying a resource that relates to said business domain. The modification would be obvious

because one of ordinary skill in the art would be motivated to analyze the overall functions of the

business domain.

As per **Claim 7**, the rejection of **Claim 6** is incorporated; however, <u>Timbol</u> and <u>Fontana</u> do not disclose:

- generating eFunction matrix from said list of inputs.

Official Notice is taken that it is old and well-known within the computing art to transform information from a list format to a matrix or table format. A matrix or table is commonly utilized to easily compare and contrast related information. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include generating eFunction matrix from said list of inputs. The modification would be obvious because one of ordinary skill in the art would be motivated to easily compare and contrast related information.

As per **Claim 8**, the rejection of **Claim 1** is incorporated; however, <u>Timbol</u> does not disclose:

- wherein the step of transforming transforms said functional requirements using a unified modeling language (UML) tool to generate said EJB component model.

<u>Fontana</u> discloses:

- wherein the step of transforming transforms said functional requirements using a unified modeling language (UML) tool to generate said EJB component model *(see Column 8: 54-57, "Included within the repository 32 is a Business Model module 66. As noted, the module 66 may be written in UML with extensions, which will be amplified hereinafter.")*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of <u>Fontana</u> into the teaching of <u>Timbol</u> to include

wherein the step of transforming transforms said functional requirements using a unified

modeling language (UML) tool to generate said EJB component model. The modification would

be obvious because one of ordinary skill in the art would be motivated to utilize a de-facto

industry standard for object-oriented analysis and design *(see Fontana - Column 6: 66 and 67 to*

Column 7: 1 and 2).

As per **Claim 9**, the rejection of **Claim 8** is incorporated; and Timbol further discloses:

- wherein said EJB component model includes a plurality of EJB classes *(see Column*

10: 24-27, "A Java Bean is a collection of one or more Java classes, often bundled into a single

JAR (Java Archive) file, that serves as a self-contained, reusable component.").

As per **Claim 10**, the rejection of **Claim 9** is incorporated; however, Timbol does not

disclose:

- wherein the step of building builds said EJB component from at least one of the

following class stereotypes: Belonging, Session, Entity, Configurable Entity, Business Policy

and Workflow.

Fontana discloses:

- wherein the step of building builds said EJB component from at least one of the

following class stereotypes: Belonging, Session, Entity, Configurable Entity, Business Policy

and Workflow *(see Column 8: 54-57, "Included within the repository 32 is a Business Model*

module 66. As noted, the module 66 may be written in UML with extensions, which will be

amplified hereinafter.").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to incorporate the teaching of <u>Fontana</u> into the teaching of <u>Timbol</u> to include

wherein the step of building builds said EJB component from at least one of the following class

stereotypes: Belonging, Session, Entity, Configurable Entity, Business Policy and Workflow.

The modification would be obvious because one of ordinary skill in the art would be motivated

to utilize a de-facto industry standard for object-oriented analysis and design *(see Fontana -*

Column 6: 66 and 67 to Column 7: 1 and 2).

As per **Claim 11**, the rejection of **Claim 1** is incorporated; however, <u>Timbol</u> does not

disclose:

-   wherein the step of transforming includes the step of mapping eXtensible Markup

Language (XML) to said EJB component model.

<u>Fontana</u> discloses:

-   wherein the step of transforming includes the step of mapping eXtensible Markup

Language (XML) to said EJB component model *(see Column 6: 63-66, "The XML component 40*

is linked to two models within the repository 32. The first is a relational database ("RDB") model

43 and the second is a Unified Modeling Language ("UML") model 44.").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to incorporate the teaching of <u>Fontana</u> into the teaching of <u>Timbol</u> to include

wherein the step of transforming includes the step of mapping eXtensible Markup Language

(XML) to said EJB component model. The modification would be obvious because one of

ordinary skill in the art would be motivated to exchange messages in the proper format *(see*

Fontana - Column 6: 61 and 62).

As per **Claim 12**, the rejection of **Claim 1** is incorporated; however, <u>Timbol</u> does not

disclose:

-    wherein the step of analyzing includes the step of dividing said business domain into

one or more sub-domains and determining functional requirements for each of said one or more

sub-domains; and wherein the step of transforming transforms each of said functional

requirements for said one or more sub-domains into said EJB component model.

<u>Fontana</u> discloses:

-    wherein the step of analyzing includes the step of dividing said business domain into

one or more sub-domains and determining functional requirements for each of said one or more

sub-domains; and wherein the step of transforming transforms each of said functional

requirements for said one or more sub-domains into said EJB component model *(see Column 7:*

48-55, "A business asset is defined as a particular aspect of a business, such as workflow, rules,

components, transaction, database, people, strategy, laws, etc. Depending on whether an asset is

independent of or dependent upon technology, they are classified as Technology Dependent and

Technology Independent assets. Examples of Technology Independent assets are people and

strategy while that of Technology Dependent assets are databases and workflow.").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to incorporate the teaching of <u>Fontana</u> into the teaching of <u>Timbol</u> to include

wherein the step of analyzing includes the step of dividing said business domain into one or more

sub-domains and determining functional requirements for each of said one or more sub-domains;

and wherein the step of transforming transforms each of said functional requirements for said

one or more sub-domains into said EJB component model. The modification would be obvious

because one of ordinary skill in the art would be motivated to understand the scope of the

business model *(see Fontana - Column 7: 31-33)*.

        As per **Claim 13**, the rejection of **Claim 1** is incorporated; and Timbol further discloses:

        -    wherein the step of building includes the step of generating relational mappings and

deployment descriptors *(see Column 10: 36-42, "Java Beans have some unique advantages over*

other components, however. They are pure Java, cross-platform components. They can be

installed on the IDE (e.g., JBuilder) Component Palette and used in the construction of one's

program, or they can be used in other application builder tools for Java. They can be deployed

in .JAR files.").

        As per **Claim 14**, the rejection of **Claim 1** is incorporated; and Timbol further discloses:

        -    generating end-user documentation *(see Column 8: 12-17, "Displaying*

documentation, such as the Help system, a BeansExpress tutorial for creating Java Bean

components, the JDK API Reference, and the JBCL API Reference.");

        -    developing unit tests to test said EJB component *(see Column 8: 47-49, "Compiles*

the program and runs it in the Debugger using the startup parameters in the Parameters dialog

box."); and

- generating a reference implementation of said EJB component *(see Column 8: 45,*

"Compiles and runs the application using the startup parameters in the Parameters dialog

box.").

As per **Claim 15**, the rejection of **Claim 14** is incorporated; and <u>Timbol</u> further discloses:

- verifying said end-user documentation to said EJB component *(see Column 8: 12-17,*

"Displaying documentation, such as the Help system, a BeansExpress tutorial for creating Java

Bean components, the JDK API Reference, and the JBCL API Reference.").

15.   **Claim 16** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Timbol** in view

of **Fontana** as applied to Claim 14 above, and further in view of **Matena et al., "Sun**

Microsystems Enterprise JavaBeans™," March 1998 (hereinafter "Matena").

As per **Claim 16**, the rejection of **Claim 14** is incorporated; however, <u>Timbol</u> and

<u>Fontana</u> do not disclose:

- packaging said EJB component for deployment with container managed persistence.
<u>Matena</u> discloses:

- packaging said EJB component for deployment with container managed persistence

(see Page 59, "The entity component protocol allows the enterprise Bean provider either to

implement the enterprise Bean's persistence directly in the enterprise Bean class (we call this

Bean-managed persistence), or delegate the enterprise Bean's persistence to the container (we

call this container-managed persistence.").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to incorporate the teaching of <u>Matena</u> into the teaching of <u>Timbol</u> to include

packaging said EJB component for deployment with container managed persistence. The

modification would be obvious because one of ordinary skill in the art would be motivated to

save the EJB's state *(see <u>Matena</u> – Page 59)*.

16.   **Claims 17 and 18** are rejected under 35 U.S.C. 103(a) as being unpatentable over

Timbol in view of **"Modeling with eBSCs," 1999 (hereinafter "eBSCs")**.

As per **Claim 17**, the rejection of **Claim 1** is incorporated; however, <u>Timbol</u> does not

disclose:

-   wherein said EJB component is a Smart component having at least one of following

Smart feature: SmartKey, SmartHandle and SmartValue.

<u>eBSCs</u> discloses:

-   wherein said EJB component is a Smart component having at least one of following

Smart feature: SmartKey, SmartHandle and SmartValue *(see Page 7, "The SmartKey interface*

extends this functionality and requires the implementation of the Comparable interface from the

java collection API. This is so that SmartKeys can be easily compared and stored in ordered

lists. The result is that it is easy to model relationships that require the ordering of Entities.").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to incorporate the teaching of <u>eBSCs</u> into the teaching of <u>Timbol</u> to include

wherein said EJB component is a Smart component having at least one of following Smart

feature: SmartKey, SmartHandle and SmartValue. The modification would be obvious because

one of ordinary skill in the art would be motivated to improve the ease of use and efficiency of

the final system *(see eBSCs – Page 7)*.

     As per **Claim 18**, the rejection of **Claim 17** is incorporated; however, Timbol does not

disclose:

-    wherein said Smart component is an eBusiness Smart component.

eBSCs discloses:

-    wherein said Smart component is an eBusiness Smart component *(see Page 5, "A*

Belonging, the simplest form of eBusiness Smart Component, is a lightweight, local object that

can be serialized.").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to incorporate the teaching of eBSCs into the teaching of Timbol to include

wherein said Smart component is an eBusiness Smart component. The modification would be

obvious because one of ordinary skill in the art would be motivated to improve the ease of use

and efficiency of the final system *(see eBSCs – Page 7)*.

Response to Arguments

17.   Applicant's arguments with respect to Claim 1 have been considered but are moot in

view of the new ground(s) of rejection.

Conclusion

18.   The prior art made of record and not relied upon is considered pertinent to Applicant's

disclosure.

19.   Any inquiry concerning this communication or earlier communications from the

Examiner should be directed to Qing Chen whose telephone number is 571-270-1071. The

Examiner can normally be reached on Monday through Thursday from 7:30 AM to 4:00 PM.

The Examiner can also be reached on alternate Fridays.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's

supervisor, Wei Zhen, can be reached on 571-272-3708. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the TC 2100 Group receptionist whose telephone number is 571-272-2100.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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/Q. C./

Examiner, Art Unit 2191

/Wei Y Zhen/

Supervisory Patent Examiner, Art Unit 2191